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1982 Census of Mineral Industries

MIC82-SUM-1(P)
Issued July 1984

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UNITED STATES
(Industry Statistics)

This report presents preliminary industry statistics for the 42 industries included in the 1982 Census of Mineral Industries.¹ The statistics presented in this report include data on number of establishments, employment, hours worked, payroll, value added by mining, cost of supplies, value of shipments and receipts, and capital expenditures. The 1982 data are subject to change in the final reports, which will be issued at a later date. Final data will be presented first in paperbound reports and then in a bound volume of Subject, Industry, and Geographic Area statistics. The final volume will include a comprehensive discussion of the concepts and definitions used in the census.

The total value of shipments and receipts for the 72,842 establishments classified in the mineral industries amounted to \$251 billion in 1982. Value added by mining amounted to \$190 billion. Payroll in mining amounted to \$28 billion. All dollar figures shown in this report are in current dollars for the years specified and have not been adjusted for changes in price levels. Therefore, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

In 1982, total employment for mining was 1.1 million employees, an increase of 38 percent from 1977. The crude petroleum and natural gas industry (SIC 1311) led all other mineral industries in employment, accounting for approximately 24 percent of the total employment shown for mining.

Mineral industries include establishments primarily engaged in metal mining; anthracite, bituminous coal and lignite mining; oil and gas extraction; mining services; and mining, milling, or otherwise preparing nonmetallic minerals, except fuels. Data in this report were tabulated based on industry definitions contained in the 1972 Standard Industrial Classification (SIC) Manual and its 1977 Supplement.² The methods of data collection which include the use of administrative records data are discussed in the appendix.



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The following abbreviations and symbols are used in the table in this publication:

(D) Withheld to avoid disclosing data for individual companies.
n.e.c. Not elsewhere classified.
SIC Standard Industrial Classification.

¹The total data shown for "All mineral industries" in this report differ slightly from comparable totals in the State statistics publication, MIC82-SUM-2(P). The industry data in this report are consolidated from a series of 12 preliminary reports issued from October 1983 through July 1984; whereas, the United States totals in the State report are based on establishment data processed as of June 1984.

²Standard Industrial Classification Manual: 1972. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 041-001-00066-6. 1977 Supplement. Stock No. 003-005-00176-0.

Table 1. Selected Statistics for Industry Groups and Industries: 1982 and 1977

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix]

SIC code	Industry group and industry	1982											1977	
		Establishments during year		All employees		Production, development, and exploration workers			Value added by mining (million dollars)	Cost of supplies used, purchased machinery installed, etc. (million dollars)	Value of shipments and receipts (million dollars)	Capital expenditures (million dollars)	All employees (1,000)	Value added by mining (million dollars)
		Total (number)	With 20 employees or more (number)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
	All mineral industries -----	72 842	10 201	1 105.2	28 356.6	763.2	1 581.3	18 063.1	190 061.3	108 256.1	251 184.9	47 132.5	798.8	68 013.1
10	Metal mining -----	1 492	324	67.7	1 849.1	46.8	89.9	1 223.9	3 217.4	3 231.8	5 273.4	1 175.8	87.6	3 503.9
1011	Iron ores -----	73	38	11.6	334.9	7.0	12.6	201.2	779.3	708.8	1 425.0	63.1	19.3	1 046.4
1021	Copper ores -----	81	51	21.8	603.0	15.9	29.5	428.0	655.6	1 300.9	1534.0	422.5	33.1	1 066.7
1031	Lead and zinc ores -----	71	28	4.3	111.8	2.9	5.8	71.1	197.9	174.5	318.3	54.1	7.1	329.1
104	Gold and silver ores -----	350	75	10.2	255.1	7.6	15.2	183.1	623.8	329.1	719.4	233.5	4.6	161.1
1041	Gold ores -----	265	54	7.6	180.3	5.5	10.6	121.9	459.5	246.4	505.3	200.6	2.6	78.2
1044	Silver ores -----	85	21	2.6	74.8	2.2	4.5	61.2	164.3	82.7	214.1	32.9	2.0	82.9
1051	Bauxite and other aluminum ores ---	10	4	.4	9.3	.2	.4	5.8	20.4	14.9	29.9	5.4	.4	31.0
1061	Ferroalloy ores, except vanadium ---	69	16	4.7	149.8	3.0	5.7	88.1	162.0	169.2	205.4	125.8	6.4	255.6
1081	Metal mining services -----	395	22	2.3	59.2	1.7	3.6	41.2	89.0	62.7	124.6	27.1	3.3	111.6
109	Miscellaneous metal ores -----	443	90	12.4	326.0	8.5	17.1	205.4	689.4	471.7	916.8	244.3	13.5	502.4
1094	Uranium-radium-vanadium ores ---	218	74	10.6	288.9	7.2	14.4	179.8	596.9	421.4	789.8	228.5	12.0	431.6
1092	Mercury ores and metallic ores, n.e.c. -----	225	16	1.8	37.1	1.3	2.7	25.6	92.5	50.3	127.0	15.8	1.5	70.8
1099														
11	Anthracite mining -----	175	42	3.6	69.7	3.0	5.8	58.0	174.5	140.4	291.8	23.1	3.6	123.0
111	Anthracite mining -----	175	42	3.6	69.7	3.0	5.8	58.0	174.5	140.4	291.8	23.1	3.6	123.0
1111	Anthracite -----	152	40	3.4	66.9	2.9	5.5	55.7	168.4	136.8	282.5	22.7	3.3	116.0
1112	Anthracite mining services -----	23	2	.2	2.8	.1	.3	2.3	6.1	3.6	9.3	.4	.3	7.1
12	Bituminous coal and lignite mining --	4 984	1 850	247.4	6 725.9	198.2	380.1	5 183.0	18 502.3	12 904.0	28 207.4	3 198.9	241.7	11 143.3
121	Bituminous coal and lignite mining --	4 984	1 850	247.4	6 725.9	198.2	380.1	5 183.0	18 502.3	12 904.0	28 207.4	3 198.9	241.7	11 143.3
1211	Bituminous coal and lignite -----	4 495	1 762	240.7	6 560.5	192.6	369.3	5 051.8	18 090.9	12 695.6	27 643.0	3 143.5	235.2	10 837.1
1213	Bituminous coal and lignite mining services -----	489	88	6.7	165.4	5.6	10.8	131.2	411.4	208.4	564.4	55.4	6.5	306.2
13	Oil and gas extraction -----	60 423	6 764	678.9	17 519.9	435.0	942.4	10 070.1	161 802.9	88 013.5	208 248.0	41 568.4	349.2	48 587.0
1311	Crude petroleum and natural gas ---	27 518	1 963	261.4	7 978.6	103.8	217.8	2 771.6	127 210.8	44 167.7	137 431.3	33 947.2	139.7	38 327.1
1321	Natural gas liquids -----	752	224	13.5	386.7	11.3	23.4	312.4	9 441.1	30 951.5	39 307.1	1 085.5	13.0	3 286.3
138	Oil and gas field services -----	32 153	4 577	404.0	9 154.6	319.9	701.2	6 986.1	25 151.0	12 894.3	31 509.6	6 535.7	196.4	6 973.6
1381	Drilling oil and gas wells -----	10 125	1 812	166.1	4 026.9	139.6	297.1	3 257.0	11 605.9	6 745.5	14 220.4	4 131.0	79.4	3 306.9
1382	Oil and gas field exploration services -----	4 225	385	40.7	781.5	33.0	72.4	616.1	2 293.2	1 002.0	2 936.3	358.9	17.8	545.2
1389	Oil and gas field services, n.e.c. ---	17 803	2 380	197.2	4 346.1	147.3	331.7	3 113.0	11 251.9	5 146.8	14 352.9	2 045.8	99.3	3 121.6
14	Nonmetallic minerals, except fuels --	5 768	1 221	107.6	2 192.0	80.2	163.1	1 528.1	6 364.2	3 966.4	9 164.3	1 166.3	116.9	4 655.9
1411	Dimension stone -----	154	22	1.5	20.8	1.2	2.1	15.9	51.5	17.7	65.9	3.3	1.9	38.5
142	Crushed and broken stone, including riprap -----	1 929	569	36.9	701.6	28.3	57.4	494.1	1 865.0	1 081.3	2 667.6	278.7	40.9	1 501.1
1422	Crushed and broken limestone ---	1 309	377	25.8	497.3	19.8	40.0	350.5	1 290.1	742.7	1 838.3	194.5	29.1	1 002.9
1423	Crushed and broken granite -----	187	89	4.4	74.1	3.6	7.5	54.6	257.4	152.2	373.0	36.6	4.4	192.0
1429	Crushed and broken stone, n.e.c. ---	433	103	6.7	130.2	4.9	9.9	89.0	317.5	186.4	456.3	47.6	7.4	306.2
144	Sand and gravel -----	2 752	344	27.9	520.3	20.8	41.7	379.2	1 345.5	750.4	1 879.5	216.4	30.5	1 016.7
1442	Construction sand and gravel -----	2 546	276	23.4	436.6	17.4	34.9	324.1	1 116.4	594.8	1 533.8	177.4	25.9	861.4
1446	Industrial sand -----	206	68	4.5	83.7	3.4	6.8	55.1	229.1	155.6	345.7	39.0	4.7	155.2
145	Clay, ceramic, and refractory minerals -----	214	93	10.1	204.6	7.3	15.6	135.7	495.6	477.0	867.9	104.7	10.0	358.1
1452	Bentonite -----	33	16	1.4	26.0	.8	1.6	15.0	57.2	49.6	95.5	11.3	1.3	56.1
1453	Fire clay -----	33	5	.4	7.2	.3	.7	5.1	16.9	13.9	27.7	3.0	.4	26.5
1454	Fuller's earth -----	13	10	1.3	19.4	.9	2.0	12.1	53.4	37.1	80.9	9.6	1.1	27.8
1455	Kaolin and ball clay -----	44	34	5.0	115.4	3.7	8.1	76.7	291.2	298.3	520.2	69.4	4.7	185.7
1459	Clay, ceramic, and refractory minerals, n.e.c. -----	91	28	2.0	36.5	1.6	3.2	26.8	76.9	78.1	143.6	11.4	2.5	62.0
147	Chemical and fertilizer mineral mining -----	183	104	23.6	602.5	16.6	34.2	396.4	2 241.8	1 417.4	3 139.6	519.4	24.3	1 433.3
1472	Barite -----	40	14	1.2	24.2	1.0	2.2	20.5	81.7	62.0	116.4	27.2	.8	45.0
1473	Fluorspar -----	8	3	.3	5.6	.2	.5	3.9	10.9	(D)	18.8	(D)	.7	12.7
1474	Potash, soda, and borate minerals -----	32	25	9.9	282.0	7.2	14.6	192.0	957.0	566.0	1 289.1	233.8	9.4	562.8
1475	Phosphate rock -----	45	29	6.9	152.2	4.8	9.4	99.0	733.8	541.9	1 052.2	223.5	7.7	439.7
1476	Rock salt -----	27	16	2.5	56.2	1.7	3.9	36.9	146.0	53.2	180.0	19.2	2.7	135.4
1477	Sulfur -----	18	13	2.3	71.2	1.3	2.8	37.2	289.2	160.3	442.2	7.3	2.7	234.5
1479	Chemical and fertilizer mineral mining, n.e.c. -----	13	4	.5	11.1	.4	.8	6.9	23.2	(D)	40.9	(D)	.3	3.1
1481	Nonmetallic minerals services -----	220	18	1.6	34.4	1.3	2.6	25.9	70.4	36.8	100.6	6.6	2.2	69.9
149	Miscellaneous nonmetallic minerals -	316	71	6.0	107.8	4.7	9.5	80.9	294.4	185.8	443.2	37.2	7.0	238.3
1492	Gypsum -----	29	4	.3	6.1	.2	.4	3.6	22.7	6.0	25.3	3.5	.4	19.1
1496	Talc, soapstone, and pyrophyllite -	27	16	1.1	19.0	.8	1.7	13.1	43.6	33.6	67.9	9.4	.9	34.8
1499	Miscellaneous nonmetallic minerals, n.e.c. -----	260	51	4.6	82.7	3.7	7.4	64.2	228.1	146.2	350.0	24.3	5.6	184.4

APPENDIX

Scope and Coverage and Explanation of Terms

SCOPE AND COVERAGE

Establishment Basis of Reporting

The census of mineral industries covers each mining establishment of firms with one paid employee or more operating in the United States. A firm operating more than one establishment is required to file a separate report for each location. Companies engaged in distinctly different lines of activity at one location are asked to submit separate reports if records permit such a separation and the activities are of significant size.

Statistics for employment and payroll for individual industries and industry groups also include employment and payroll figures for administrative offices, warehouses, storage facilities, and other auxiliary establishments servicing mining establishments. Respondents were asked to file separate reports for any separately operated auxiliary establishments. Classification of employment and payroll data at such auxiliary establishments was based on the mining establishments served.

For oil and gas field operations and for contract services, the basis for reporting was different from the "establishment" basis used for other types of mining. Firms operating oil and gas wells, drilling wells, or exploring for oil and gas for their own account, were required to submit a separate report for each State or offshore area adjacent to a State in which it conducted such activities and to include employment, production, and capital expenditures data at the county level. Firms which supplied contract services for oil and gas field operations or for mining establishments were required to submit one report covering all such activities in the United States and to include information on receipts for services by State and county. These consolidated reports were then allocated to county establishments based on the data reported at the county level.

Use of Administrative Records

From a mailout universe of 36,000 mining establishments, approximately 11,000 small single establishment companies were not mailed a questionnaire. For these establishments, some employment, payroll, and receipts data were obtained from the administrative records of other agencies. Selection of the small establishment nonmail cases was done on an industry-by-industry basis, and a variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. This information was then used in conjunction with industry averages to estimate the statistics for administrative-record and nonresponse establishments. The value of shipments and receipts and cost of supplies were not distributed among specific products and supplies for these establishments, but were included in the product and supply "not specified by kind" categories. Overall, establishments for which administrative-record data were used accounted for less than 3 percent of total value of shipments.

EXPLANATION OF TERMS

All employees—This item includes all full-time and part-time employees on the payrolls of operating mineral establishments for any part of the pay period including the 12th of the

months specified on the report form. Included are all persons on paid sick leave, paid holidays, and paid vacation during these pay periods. Officers of the corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employee" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for the midmonth payroll periods of March, May, August, and November.

Payroll—This item includes all forms of compensation; such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if it is a corporation; it excludes payments to the proprietor or partners, if it is an unincorporated concern. Respondents were told that in reporting they could follow the definition of payroll used for calculating the Federal withholding tax.

Production-, development-, and exploration-worker hours—This item represents all hours that production, development, and exploration workers worked both on active days during which there was production or development work and on inactive days when only guards, inspectors, repairpersons, and other maintenance persons were on duty. It includes all hours worked or paid for at the mining operations, except hours for paid vacations, holidays, or sick leave, when the employee was not at the establishment. Included are actual overtime hours, not straight-time equivalent hours. Hours of working proprietors or partners are excluded.

Cost of supplies used, purchased machinery installed, etc.—This cost includes supplies, minerals received for preparation, and purchased machinery installed, fuels and electric energy used, contract work done by others, and cost of products bought and resold without further processing. It includes charges to both the current and capital accounts. It also includes the cost of items used during 1982, whether they were purchased, withdrawn from inventories, or received from other establishments of the company. Supplies and equipment used in mine development, plant expansion, and capitalized repairs, which are chargeable to fixed assets accounts, were included, as were supplies furnished without charge to contractors for use at the mining operation and supplies sold to employees for use at the establishment. No data on such costs as advertising, insurance, telephone, and research and consulting services of other establishments; or on overhead costs, such as depreciation charges, rent, interest, and royalties were included in this item. For selected supplies and fuels and for electric energy, both quantity and cost data were requested. The cost data refer to direct charges actually paid or payable (after discounts) for items used during the year. Freight charges and other direct charges, incurred by the establishment in acquiring the item, are included. Where the company's records did not show actual amounts used, they were asked to approximate use by adding purchases (or receipts) during the year to beginning inventory and subtracting ending inventory.

Value added by mining—This measure of mining activity is derived by subtracting the total cost of supplies used, purchased machinery installed, etc., from the sum of the value of shipments and receipts (mining products plus receipts for services rendered) and total capital expenditures.

This statistic avoids the duplication in value of shipments and receipts, which results from the use of products of some establishments as supplies, energy sources, or materials by others. Moreover, it provides a measure of value added, not only in mineral production, but also in the development of mineral properties. For these reasons, it is considered to be the best value measure for comparing the relative economic importance of mining among industries and geographic areas.

Value of shipments and receipts—This item includes the values, f.o.b. mine, well, or plant (exclusive of freight and taxes), of all primary and secondary products shipped, as well as all miscellaneous receipts such as receipts for contract work performed for others, installation and repair, sale of scrap, and sale of products bought and resold without further processing. Included are all items produced by the establishments and sold, transferred to other plants of the same company, or shipped on consignment.

In the case of multiunit companies, the firm was requested to report the value of products transferred to other establishments of the same company at full economic or commercial

value; i.e., including not only the direct costs of production, but also a reasonable proportion of "all other costs" (including company overhead) and profit.

For industry and industry group totals, some duplication is introduced by the inclusion of materials transferred from one establishment to another for mineral preparation. Wherever value of shipments and receipts is shown without further specification, it represents gross shipments.

Capital expenditures—This item covers expenditures made during the year for development and exploration of mineral properties, for construction, and for purchased machinery chargeable to fixed assets accounts of the mineral establishment. They are the type for which depreciation, depletion, or Office of Minerals Exploration accounts are ordinarily maintained. Capital expenditures during 1982 were to be determined as "additions completed during the year plus construction in progress at the end of the year minus construction in progress at the beginning of the year." Reported capital expenditures were to include work done by contract, as well as by the mine forces. Expenditures for machinery and equipment were to include those made for replacement purposes, as well as those for additions to capacity. Excluded from these expenditures were costs of maintenance and repairs charged as current operating expense and expenditures for land and mineral rights.

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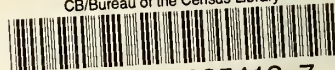
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